[This Drawing is a full-size reproduction of the Original.]

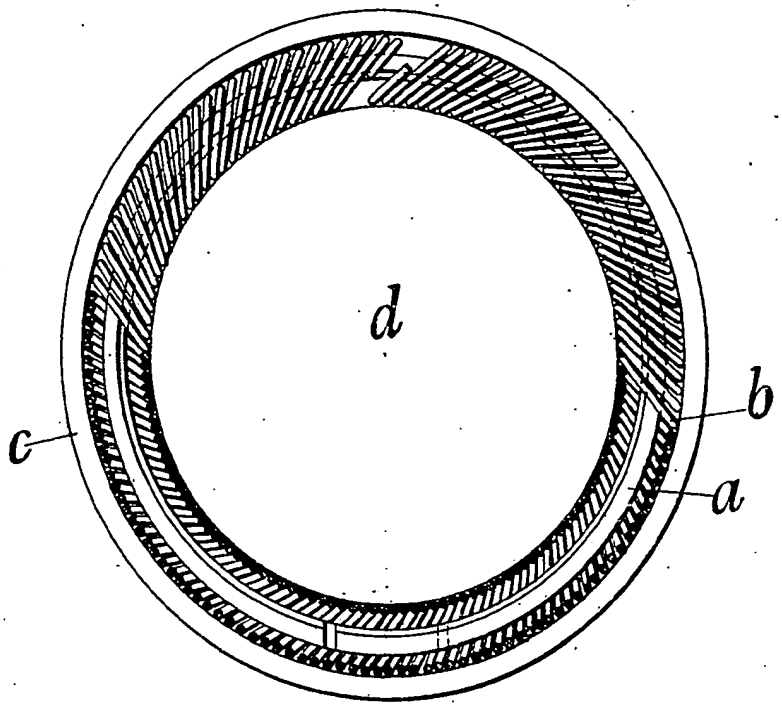

Fig.1

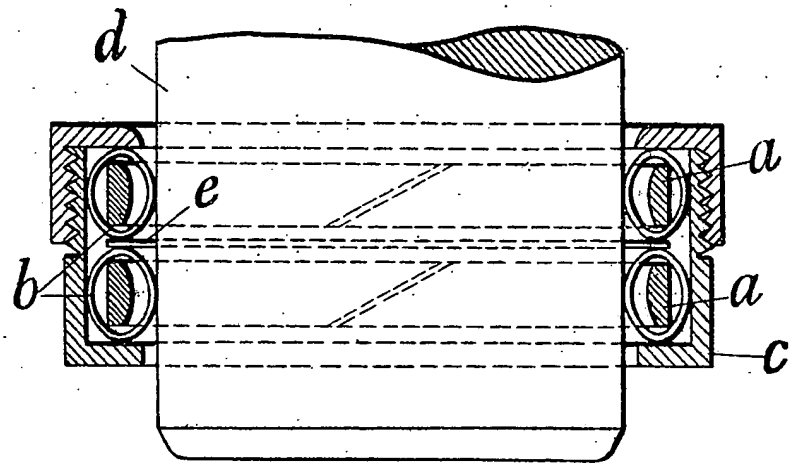

Fig.2

Malby&Sons, Photo-Litho

PATENT SPECIFICATION

Application Date: Oct. 18, 1921. No. 27,677/21. **186,526**

Complete Left: July 1, 1922.

Complete Accepted: Oct. 5, 1922.

PROVISIONAL SPECIFICATION.

Improvements relating to Electric Switches and the like.

I, GEORGE ELLISON, a subject of the King of Great Britain and Ireland, of Wellhead Lane Works, Perry Barr, in the City of Birmingham, do hereby declare the nature of this invention to be as follows:—

This invention relates to electric switches and the like in which one of the contacts is formed by the convolutions of a spiral spring. In the Specification of a former Patent Number 29,822 of 1913 I have described a spring in which lateral resiliency is obtained by causing the convolutions to lie at a suitable inclination to the axis of the spring.

The object of the present invention is to provide improved means for ensuring the desired inclination of the convolutions in springs of annular form.

The invention comprises the use within an annular spiral spring, of a split ring which causes the convolutions to assume the required inclination.

In one manner of carrying the invention into effect, a stiff divided ring has slipped over it a normally wound spiral spring which completely encloses the ring. The diameter of the ring is less than the mean diameter of the spring. Due to the action of the ring on the spring the convolutions of the latter naturally assume such an inclination that the spring can yield under lateral or radial pressure.

By this invention I am able to simplify greatly the design and construction of switches and the like fitted with spiral spring contacts.

Dated this 17th day of October, 1921.

MARKS & CLERK.

COMPLETE SPECIFICATION.

Improvements relating to Electric Switches and the like.

I, GEORGE ELLISON, a subject of the King of Great Britain, of Wellhead Lane Works, Perry Barr, in the City of Birmingham, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to electric switches and the like in which one of the contacts is formed by the convolutions of a spiral spring. In the Specification of a former Patent Number 29,822 of 1913 I have described a spring in which lateral resiliency is obtained by causing the convolutions to lie at a suitable inclination to the axis of the spring.

The object of the present invention is to provide improved means for ensuring the desired inclination of the convolutions in springs of annular form.

The invention comprises the use within an annular spiral spring, of a split ring which causes the convolutions to assume the required inclination.

In the accompanying sheet of explanatory drawings:—

Figure 1 is a plan and Figure 2 a longitudinal section showing diagrammatically a resilient spiral spring switch contact constructed in accordance with this invention.

In carrying the invention into effect as shown, a stiff divided ring *a* has slipped over it a normally wound spiral spring *b* which completely encloses the ring. When the spring is arranged in an outer holder *c* to co-operate with an axially

[*Price* 1/-]

Price 4s 6d

movable central or inner stem or plunger *d*, the outside diameter of the ring is rather greater than the mean diameter of the spring. Due to the pressure between the outer side of the ring and the adjacent inner side of the spring the convolutions of the latter naturally assume such an inclination as shown in Figure 1 that the spring can yield under lateral or radial pressure when the plunger is moved axially into contact with the inner periphery of the spring.

By this invention I am able to simplify greatly the design and construction of switches and the like fitted with spiral spring contacts. In the form shown the holder *c* is provided with a pair of superimposed rings separated by an annular disc *e*.

When the spring is arranged on an inner member, so that the relatively movable member acts on its outer periphery, the outside diameter of the ring is rather less than the mean diameter of the spring.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. In electric switches and the like of the kind specified, the use within an annular spiral spring, of a split ring which causes the convolutions to assume the required inclination, substantially as described.

2. In electric switches and the like of the kind specified, the combination of a resilient spiral spring contact and an inner ring, substantially as described and illustrated.

Dated this 23rd day of June, 1922.

MARKS & CLERK.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1922.